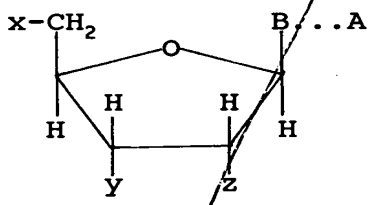


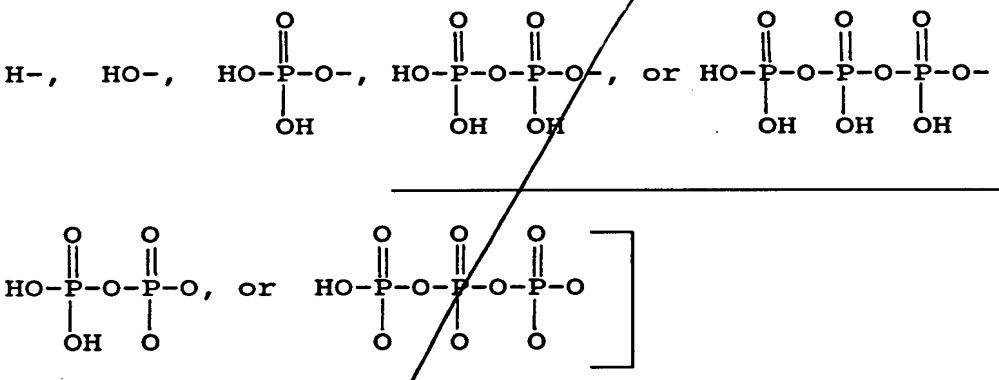
wherein B represents a purine, deazapurine, or pyrimidine moiety suitable for incorporation into a polynucleotide and covalently bonded to the $C^{1'}$-position of the sugar moiety, provided that when B is a purine or pyrimidine, it is attached at the N^9-position of the purine or deazapurine [or deazapurine], and when B is pyrimidine, it is attached at the N^1 position;

wherein A represents a ligand capable of specifically complexing with a detectable polypeptide when A is linked to B [component of a detectable complex] and comprises at least three carbon atoms;

wherein B and A are attached together directly or through a linkage group said linkage group not interfering substantially with the characteristic ability of A to form said specific [detectable] complex with the detectable polypeptide;

wherein if B is a purine, the linkage is attached to the 8-position of the purine, if B is a deazapurine, the linkage is attached to the 7-position of the deazapurine, and if B is a [pyrmidine] pyrimidine, the linkage is attached to the 5-position of the pyrimidine; and

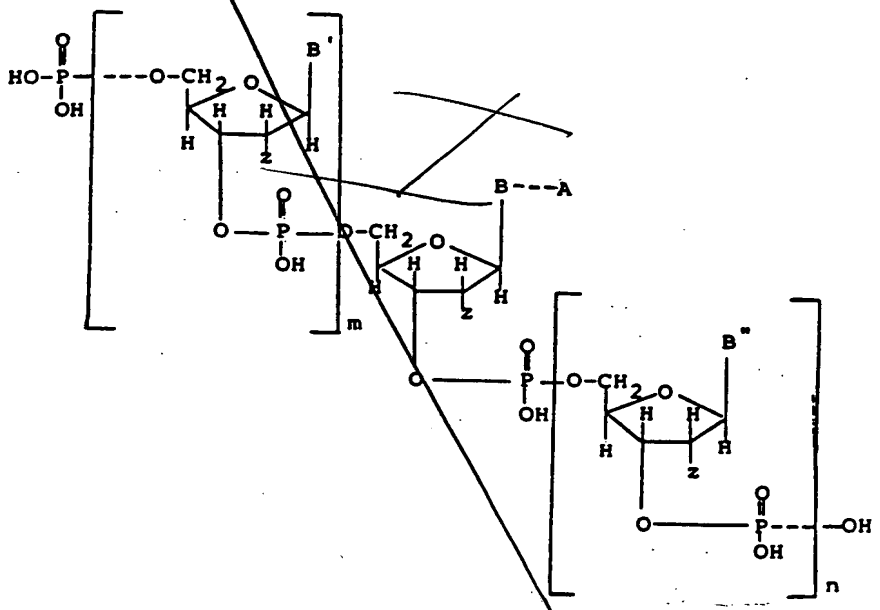
wherein each of x, y and z represents:



and which composition further comprises [at least one additional component including a] the detectable polypeptide capable of [directly or indirectly] forming said complex with A.

102. (Twice Amended) A composition in accordance with Claim 101 wherein said [poylpeptide includes a moiety which can be detected] detectable polypeptide is linked to an indicator molecule selected from the group consisting of fluorescent dyes, electron-dense reagents, enzymes which can be reacted with a substrate to produce a visually detectable reaction product, and radioisotopes.

110. (Twice Amended) A composition comprising a compound having the structure:



wherein each of B, B', and B'' represents a purine, deazapurine, or pyrimidine moiety covalently bonded to the $C^{1''}$-position of the sugar moiety, provided that whenever B, B', or B'' is purine or deazapurine, it is attached at the N^9-position of the purine or deazapurine, and whenever B, B', or B'' is a pyrimidine, it is attached at the N^1-position;

wherein A [represnts] represents a ligand capable of specifically complexing with a detectable polypeptide when A is linked to B [component of a detectable complex] and comprises at least three carbon atoms;

wherein B and A are attached together directly or through a linkage group said linkage group not interfering substantially with the characteristic ability of A to form said specific [detectable] complex with the detectable polypeptide;

wherein if B is a purine, the linkage is attached to the 8-position of the purine, if B is a deazapurine, the linkage is attached to the 7-position of the deazapurine, and if B is a pyrimidine, the linkage is attached to the 5-position of the pyrimidine;

wherein z represents H or HO; and which composition further comprises [at least one additional component including a] the detectable polypeptide capable of [directly or indirectly of] forming said complex with A.

111. (Twice Amended) A composition in accordance with Claim 110 wherein said [poylpeptide includes a moiety which can be detected] detectable polypeptide is linked to an indicator molecule selected from the group consisting of fluorescent dyes, electron-dense reagents, enzymes which can be reacted with a substrate to

produce a visually detectable reaction product, and radioisotopes.

148. (Amended) The composition of Claims 101 or 110 [Claim 146] wherein said ligand [comprises a specific binding protein] is selected from the group consisting of ~~biotin, iminobiotin,~~ antigens, antibodies and haptens.

Please add the following new claims:

13 ~~152~~. (New) A ~~composition~~ complex according to Claims ~~101~~ 3 or ~~110~~ 6 wherein the detectable polypeptide is indirectly detectable by specifically complexing the detectable polypeptide with a second ~~polypeptide~~ moiety covalently linked to an indicator molecule selected from the group consisting of fluorescent dyes, electron-dense reagents, enzymes which can be reacted with a substrate to produce a visually detectable reaction product, and radioisotopes.

14 ~~153~~. (New) A ~~composition~~ complex according to Claim ~~152~~ 13 wherein the detectable polypeptide is selected from the group consisting of avidin and streptavidin and the second ~~polypeptide~~ moiety is selected from the group consisting of biotin and iminobiotin.

15 ~~154~~. (New) A ~~composition~~ complex according to Claim ~~152~~ 14 wherein the indicator molecule is an enzyme which can be reacted with a substrate to produce a visually detectable reaction product.

155. (New) A composition according to Claim 147 wherein said ligand is selected from the group consisting of biotin or iminobiotin.

156. (New) A composition comprising a compound having the structure:

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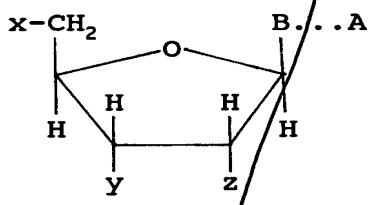


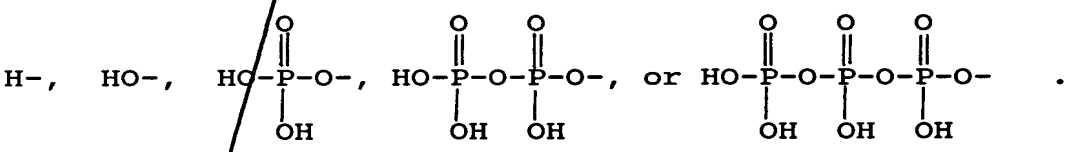
wherein B represents a purine, deazapurine, or pyrimidine moiety suitable for incorporation into a polynucleotide and covalently bonded to the $C^{1'}$-position of the sugar moiety, provided that when B is a purine or pyrimidine, it is attached at the N^9-position of the purine or deazapurine, and when B is pyrimidine, it is attached at the N^1 position;

wherein A represents a moiety comprising at least three carbon atoms, said moiety further comprising an indicator molecule selected from the group consisting of fluorescent dyes, electron-dense reagents, enzymes which can be reacted with a substrate to produce a visually detectable reaction product, and radioisotopes;

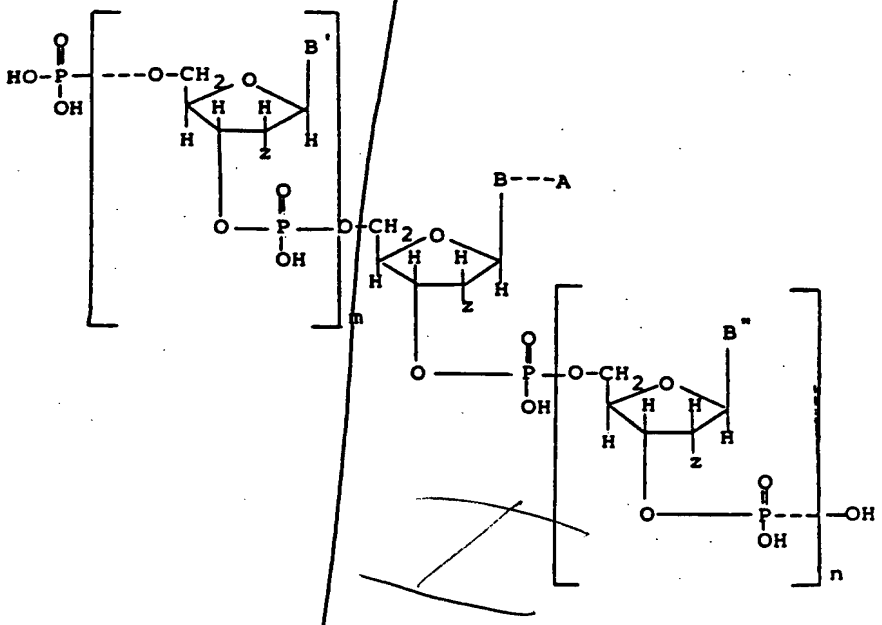
wherein B and A are attached together directly or through a linkage group, said linkage group not interfering substantially with detection of the indicator molecule linked to A;

wherein if B is a purine, the linkage is attached to the 8-position of the purine, if B is a deazapurine, the linkage is attached to the 7-position of the deazapurine, and if B is a pyrimidine, the linkage is attached to the 5-position of the pyrimidine; and

wherein each of x, y and z represents:



157. (New) A composition comprising a compound having the structure:



wherein each of B, B', and B'' represents a purine, deazapurine, or pyrimidine moiety covalently bonded to the $C^{1'}$-position of the sugar moiety, provided that whenever B, B', or B'' is purine or deazapurine, it is attached at the N^9-position of the purine or deazapurine, and whenever B, B', or B'' is a pyrimidine, it is attached at the N^1-position;

wherein A represents a moiety comprising at least three carbon atoms, said moiety further comprising an indicator molecule selected from the group consisting of fluorescent dyes, electron-dense reagents, enzymes which can be reacted with a substrate to produce a visually detectable reaction product and radioisotopes;

wherein B and A are attached together directly or through a linkage group, said linkage group not interfering substantially with detection of the indicator molecule linked to A;

wherein if B is a purine, the linkage is attached to the 8-position

of the purine, if B is a deazapurine, the linkage is attached to the 7-position of the deazapurine, and if B is a pyrimidine, the linkage is attached to the 5-position of the pyrimidine; and

wherein z represents H or HO.

REMARKS

Entry of the foregoing amendments is requested. The amendments are supported by the application as filed and therefore introduce no new matter. The amended claims also incorporate the requested correction of spelling errors in Paper No. 3.

Support for new Claims 156 and 157, wherein the "A" moiety comprises an indicator molecule, is found at page 9, lines 6-10; page 9, line 32 - page 10, line 2, and; page 22, lines 15-17 of the specification. Specifically, these disclosures teach that the probe (i.e., the "A" moiety) may react specifically with chemical reagents to provide a detection system. It would be readily apparent to one skilled in the art that in order for "A" to react directly with chemical reagents and thereby provide a detection system, "A" itself would be capable of detection. At page 22, one embodiment is disclosed wherein biotin- or iminobiotin-containing nucleotides may be radiolabelled on the "A" moiety.

Obviousness-type Double Patenting

The claims have been rejected for obviousness-type double patenting as unpatentable over claims 1-21 of U.S. Patent 4,711,955. A terminal disclaimer is being executed in compliance with 37 CFR §1.321(b) and will be submitted separately as soon as it is available. Withdrawal of the rejection upon filing of the